RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _09/674,810_

Source: _IFW16_

Date Processed by STIC: _4/22/05_

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RAW SEQUENCE LISTING   DATE: 04/22/2005
PATENT APPLICATION: US/09/674,817D   TIME: 12:10:44

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Output Set: N:\CRF4\04222005\I674817D.raw

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 4 <110> APPLICANT: LORZ, HORST
 5        LUTTICKE, STEPHANIE
 6        ABEL, GERNOT
 7        GENSCHEL, ULRICH
 9 <120> TITLE OF INVENTION: NUCLEIC ACID MOLECULES WHICH CODE FOR ENZYMES
10        DERIVED FROM WHEAT AND WHICH ARE INVOLVED IN
11        THE SYNTHESIS OF STARCH
13 <130> FILE REFERENCE: 514413-3849.1
15 <140> CURRENT APPLICATION NUMBER: 09/674,817D
16 <141> CURRENT FILING DATE: 2000-11-06
18 <150> PRIOR APPLICATION NUMBER: WO 99/58690
19 <151> PRIOR FILING DATE: 1999-11-18
21 <150> PRIOR APPLICATION NUMBER: DE 198 20 608.9
22 <151> PRIOR FILING DATE: 1998-05-08
24 <160> NUMBER OF SEQ ID NOS: 11
26 <170> SOFTWARE: PatentIn version 3.3
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29 <211> LENGTH: 2997
30 <212> TYPE: DNA
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38 <221> NAME/KEY: CDS
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48    1               5                  10                  15
50 gcg ggg aag ggg gtc ggc gag gtg tgc gcc gcg gtt gtc gag gcg gcg          95
51 Ala Gly Lys Gly Val Gly Glu Val Cys Ala Ala Val Val Glu Ala Ala
52                 20                  25                  30
54 acg aag gta gag gac gag ggg gag gag gac gag ccg gtg gcg gag gac         143
55 Thr Lys Val Glu Asp Glu Gly Glu Glu Asp Glu Pro Val Ala Glu Asp
56                 35                  40                  45
58 agg tac gcg ctc ggc ggc gcg tgc agg gtg ctc gcc gga atg ccc gcg         191
59 Arg Tyr Ala Leu Gly Gly Ala Cys Arg Val Leu Ala Gly Met Pro Ala
60         50                  55                  60
62 ccg ctg ggc gcc acc gcg ctc gcc ggc ggg gtc aat ttc gcc gtc tat         239
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67 Ser Gly Gly Ala Thr Ala Ala Ala Leu Cys Leu Phe Thr Pro Glu Asp
68 80                  85                  90                  95
70 ctc aag gcg gtggggttgc ctcccgagta gagttcatca gctttgcgtg            336
71 Leu Lys Ala
74 cgccgcgcgc ccctttttttg ggcctgcaat ttaagtttttg tactggggca aatgctgcag    396
76 gat agg gtg acc gag gag gtt ccc ctt gac ccc ctg atg aat cgg acc      444
77 Asp Arg Val Thr Glu Glu Val Pro Leu Asp Pro Leu Met Asn Arg Thr
78      100                 105                 110
80 ggg aac gtg tgg cat gtc ttc atc gaa ggc gag ctg cac aac atg ctt      492
81 Gly Asn Val Trp His Val Phe Ile Glu Gly Glu Leu His Asn Met Leu
82 115                 120                 125                 130
84 tac ggg tac agg ttc gac ggc acc ttt gct cct cac tgc ggg cac tac      540
85 Tyr Gly Tyr Arg Phe Asp Gly Thr Phe Ala Pro His Cys Gly His Tyr
86                  135                 140                 145
88 ctt gat gtt tcc aat gtc gtg gtg gat cct tat gct aag gca gtg ata      588
89 Leu Asp Val Ser Asn Val Val Val Asp Pro Tyr Ala Lys Ala Val Ile
90                  150                 155                 160
92 agc cga ggg gag tat ggt gtt cca gcg cgt ggt aac aat tgc tgg cct      636
93 Ser Arg Gly Glu Tyr Gly Val Pro Ala Arg Gly Asn Asn Cys Trp Pro
94      165                 170                 175
96 cag atg gct ggc atg atc cct ctt cca tat agc acg ttt gat tgg gaa      684
97 Gln Met Ala Gly Met Ile Pro Leu Pro Tyr Ser Thr Phe Asp Trp Glu
98      180                 185                 190
100 ggc gac cta cct cta aga tat cct caa aag gac ctg gta ata tat gag     732
101 Gly Asp Leu Pro Leu Arg Tyr Pro Gln Lys Asp Leu Val Ile Tyr Glu
102 195                 200                 205                 210
104 atg cac ttg cgt gga ttc acg aag cat gat tca agc aat gta gaa cat     780
105 Met His Leu Arg Gly Phe Thr Lys His Asp Ser Ser Asn Val Glu His
106                 215                 220                 225
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109 Pro Gly Thr Phe Ile Gly Ala Val Ser Lys Leu Asp Tyr Leu Lys Glu
110                 230                 235                 240
112 ctt gga gtt aat tgt att gaa tta atg ccc tgc cat gag ttc aac gag     876
113 Leu Gly Val Asn Cys Ile Glu Leu Met Pro Cys His Glu Phe Asn Glu
114         245                 250                 255
116 ctg gag tac tca acc tct tct tcc aag atg aac ttt tgg gga tat tct     924
117 Leu Glu Tyr Ser Thr Ser Ser Ser Lys Met Asn Phe Trp Gly Tyr Ser
118     260                 265                 270
120 acc ata aac ttc ttt tca cca atg aca aga tac aca tca ggc ggg ata     972
121 Thr Ile Asn Phe Phe Ser Pro Met Thr Arg Tyr Thr Ser Gly Gly Ile
122 275                 280                 285                 290
124 aaa aac tgt ggg cgt gat gcc ata aat gag ttc aaa act ttt gta aga    1020
125 Lys Asn Cys Gly Arg Asp Ala Ile Asn Glu Phe Lys Thr Phe Val Arg
126                 295                 300                 305
128 gag gct cac aaa cgg gga att gag gtg atc ctg gat gtt gtc ttc aac    1068
129 Glu Ala His Lys Arg Gly Ile Glu Val Ile Leu Asp Val Val Phe Asn
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132 cat aca gct gag ggt aat gag aat ggt cca ata tta tca ttt aag ggg    1116
133 His Thr Ala Glu Gly Asn Glu Asn Gly Pro Ile Leu Ser Phe Lys Gly
134         325              330                335
136 gtc gat aat act aca tac tat atg ctt gca ccc aag gga gag ttt tat    1164
137 Val Asp Asn Thr Thr Tyr Tyr Met Leu Ala Pro Lys Gly Glu Phe Tyr
138         340              345                350
140 aac tat tct ggc tgt ggg aat acc ttc aac tgt aat cat cct gtg gtt    1212
141 Asn Tyr Ser Gly Cys Gly Asn Thr Phe Asn Cys Asn His Pro Val Val
142 355             360              365                370
144 cgt caa ttc att gta gat tgt tta aga tac tgg gtg acg gaa atg cat    1260
145 Arg Gln Phe Ile Val Asp Cys Leu Arg Tyr Trp Val Thr Glu Met His
146             375              380                385
148 gtt gat ggt ttt cgt ttt gat ctt gca tcc ata atg acc aga ggt tcc    1308
149 Val Asp Gly Phe Arg Phe Asp Leu Ala Ser Ile Met Thr Arg Gly Ser
150         390              395                400
152 agt ctg tgg gat cca gtt aac gtg tat gga gct cca ata gaa ggt gac    1356
153 Ser Leu Trp Asp Pro Val Asn Val Tyr Gly Ala Pro Ile Glu Gly Asp
154         405              410                415
156 atg atc aca aca ggg aca cct ctt gtt act cca cca ctt att gac atg    1404
157 Met Ile Thr Thr Gly Thr Pro Leu Val Thr Pro Pro Leu Ile Asp Met
158         420              425                430
160 atc agc aat gac cca att ctt gga ggc gtc aag ctc att gct gaa gca    1452
161 Ile Ser Asn Asp Pro Ile Leu Gly Gly Val Lys Leu Ile Ala Glu Ala
162 435             440              445                450
164 tgg gat gca gga ggc ctc tat caa gta ggt caa ttc cct cac tgg aat    1500
165 Trp Asp Ala Gly Gly Leu Tyr Gln Val Gly Gln Phe Pro His Trp Asn
166             455              460                465
168 gtt tgg tct gag tgg aat ggg aag tac cgg gac att gtg cgt caa ttc    1548
169 Val Trp Ser Glu Trp Asn Gly Lys Tyr Arg Asp Ile Val Arg Gln Phe
170         470              475                480
172 att aaa ggc act gat gga ttt gct ggt ggt ttt gcc gaa tgt ctt tgt    1596
173 Ile Lys Gly Thr Asp Gly Phe Ala Gly Gly Phe Ala Glu Cys Leu Cys
174         485              490                495
176 gga agt cca cac cta tac cag gtaagttgtg gcaatacttg taaatgagtt    1647
177 Gly Ser Pro His Leu Tyr Gln
178         500              505
180 gagtgaatgt cacctggatt ttttatatat accacatgat gatacacatc taaatatata    1707
182 acaatcatag tgtatgcata tgcatttggc taagaagtat tagtgtatac actagtgcta    1767
184 tatataggtt ttaacacca acttgccaat gaaggaacat agggctttct agttatctta    1827
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188 agaagaaact atattgattt gcccccctaa aagaagccat ctcagaattc ataggtaagt    1947
190 tgcttttctg taaagaaagg aaaacgactt catactttct atcggtgcta acttagctcg    2007
192 atgtatattt gtaagatgaa tgccaaattt aatttgtcgg ataatttgat ctgttattca    2067
194 caaatttcta tttggtttct ctagaaatca aaccagtaac ttgttattgg cactgcaact    2127
196 tcttattgat taatcag gca gga gga agg aaa cct tgg cac agt atc aac    2177
197                 Ala Gly Gly Arg Lys Pro Trp His Ser Ile Asn
198                             510                515
200 ttt gta tgt gca cat gat gga ttt aca ctg gct gat ttg gta aca tat    2225
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205 Asn Lys Lys Tyr Asn Leu Pro Asn Gly Glu Asn Asn Arg Asp Gly Glu
206          535                 540                 545
208 aat cac aat ctt agc tgg aat tgt ggg gag gaa gga gaa ttc gca aga    2321
209 Asn His Asn Leu Ser Trp Asn Cys Gly Glu Glu Gly Glu Phe Ala Arg
210      550                 555                 560
212 ttg tct gtc aaa aga ttg agg aag agg cag atg cgc aat ttc ttt gtt    2369
213 Leu Ser Val Lys Arg Leu Arg Lys Arg Gln Met Arg Asn Phe Phe Val
214 565                 570                 575                 580
216 tgt ctc atg gtt tct caa gga gtt cca atg ttc tac atg ggt gat gaa    2417
217 Cys Leu Met Val Ser Gln Gly Val Pro Met Phe Tyr Met Gly Asp Glu
218                 585                 590                 595
220 tat ggc cac aca aaa ggg ggc aac aac aat aca tac tgc cat gat tct    2465
221 Tyr Gly His Thr Lys Gly Gly Asn Asn Asn Thr Tyr Cys His Asp Ser
222          600                 605                 610
224 tat gtc aat tat ttt cgc tgg gat aaa aaa gaa caa tac tct gag ttg    2513
225 Tyr Val Asn Tyr Phe Arg Trp Asp Lys Lys Glu Gln Tyr Ser Glu Leu
226          615                 620                 625
228 cac cga ttc tgc tgc ctc atg acc aaa ttc cgc aag gag tgc gag ggt    2561
229 His Arg Phe Cys Cys Leu Met Thr Lys Phe Arg Lys Glu Cys Glu Gly
230      630                 635                 640
232 ctt ggc ctt gag gac ttt cca acg gcc aaa cgg ctg cag tgg cat ggt    2609
233 Leu Gly Leu Glu Asp Phe Pro Thr Ala Lys Arg Leu Gln Trp His Gly
234 645                 650                 655                 660
236 cat cag cct ggg aag cct gat tgg tct gag aat agc cga ttc gtt gcc    2657
237 His Gln Pro Gly Lys Pro Asp Trp Ser Glu Asn Ser Arg Phe Val Ala
238                 665                 670                 675
240 ttt tcc atg aaa gat gaa aga cag ggc gag atc tat gtg gcc ttc aac    2705
241 Phe Ser Met Lys Asp Glu Arg Gln Gly Glu Ile Tyr Val Ala Phe Asn
242              680                 685                 690
244 acc agc cac tta ccg gcc gtt gtt gag ctc cca gag cgc gca ggg cgc    2753
245 Thr Ser His Leu Pro Ala Val Val Glu Leu Pro Glu Arg Ala Gly Arg
246          695                 700                 705
248 cgg tgg gaa ccg gtg gtg gac aca ggc aag cca gca cca tac gac ttc    2801
249 Arg Trp Glu Pro Val Val Asp Thr Gly Lys Pro Ala Pro Tyr Asp Phe
250      710                 715                 720
252 ctc acc gac gac tta cct gat cgc gct ctc acc ata cac cag ttc tcg    2849
253 Leu Thr Asp Asp Leu Pro Asp Arg Ala Leu Thr Ile His Gln Phe Ser
254 725                 730                 735                 740
256 cat ttc ctc tac tcc aac ctc tac ccc atg ctc agc tac tca tcg gtc    2897
257 His Phe Leu Tyr Ser Asn Leu Tyr Pro Met Leu Ser Tyr Ser Ser Val
258              745                 750                 755
260 atc cta gta ttg cgc cct gat gtt tga gag acc aat ata tac agt aaa    2945
261 Ile Leu Val Leu Arg Pro Asp Val     Glu Thr Asn Ile Tyr Ser Lys
262              760                 765                 770
264 taa tat gtc tat atg taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa       2997
265     Tyr Val Tyr Met
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